



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/635,253

08/06/2003

Chul-Sung Park

8836-202 (ID12076-US)

9451

7590

09/16/2004

Frank Chau  
F.CHAU & ASSOCIATES, LLP  
Suite 501  
1900 Hempstead Turnpike  
East Meadow, NY 11554

EXAMINER

NGUYEN, MINH T

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

10/635,253

**Applicant(s)**

PARK ET AL.

**Examiner**

Minh Nguyen

**Art Unit**

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of species I in the reply filed on 8/12/04 is acknowledged. The traversal is on the ground that the applicants believe simultaneous examination of the entire application with distinct species will not present undue burden. This is not found persuasive because the applicants merely state their belief instead of presenting convincing facts. The requirement is still deemed proper and is therefore made FINAL.

2. The following is a detail Office action of the elected species I, i.e., claims 1-7 and 10-15.

### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it uses words which can be implied, i.e., "comprises". Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 and 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, the phrase “a direct current voltage component signal” recited on line 1 is unclear, i.e., it is unclear if it is referring to a current signal or a voltage signal. It is further unclear if the term is related to the term “alternating current signal” recited on line 3 of the claim. Clarification is requested.

As per claims 2-7, these claims are rejected because of the indefiniteness of claim 1.

As per claim 10, the same problem exists as discussed in claim 1.

As per claims 11-15, these claims are rejected because of the indefiniteness of claim 10.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 10 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 3,993,984, issued to Penrod.

Art Unit: 2816

As per claim 1, Penrod discloses an integrated circuit device (Fig. 1) comprising a pin (the pin where S1 is connected) for receiving a direct current voltage component signal (the signal on the AC LINE 10), the device comprising:

a signal source (the source which generates the signal on the AC LINE 10) for applying an alternating current signal (column 2, line 27-28, i.e., alternating current power line 10) to the pin;

a buffer (15) for converting the alternating current signal into a digital signal (column 2, lines 40-42); and

a digital detector (comparator 35, digital because the input signal from the counter 25 to the comparator is digital) for detecting a frequency of the digital signal (column 2, lines 62-66) and outputting a predetermined detection signal (the signal on line 37, also see column 2, lines 62-66).

As per claim 2, the recited limitation is described in column 2, lines 62-66.

As per claim 4, the recitation is merely an intended use of the predetermined detection signal. It is clear that the Penrod's predetermined detection signal on line 37 is capable of being used for setting predetermined functional modes.

As per claim 10, this claim is rejected for the same reasons noted in claim 1.

As per claim 14, this claim is rejected for the same reasons noted in claim 2.

6. Claims 1-2, 4, 10 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 4,468,796, issued to Suga.

Art Unit: 2816

As per claim 1, Suga discloses an integrated circuit device (Fig. 1) comprising a pin (the input terminal of the BF circuit) for receiving a direct current voltage component signal (Fig. 3, the PT input), the device comprising:

a signal source (the source which generates the signal PT INPUT, i.e., the potential transformer PT, column 1, line 39) for applying an automating current signal (column 1, line 38, i.e., the sine wave) to the pin;

a buffer (BF) for converting the alternating current signal into a digital signal (column 1, lines 39-40); and

a digital detector (comparator COM, digital because the input signal from the pulse counter C to the comparator is digital) for detecting a frequency of the digital signal (column 2, lines 62-66) and outputting a predetermined detection signal (the signal T, see column 2, lines 27-30).

As per claim 2, the recited limitation is described in column 2, lines 27-30.

As per claim 4, the recitation is merely an intended use of the predetermined detection signal. It is clear that the Suga's predetermined detection signal T is capable of being used for setting predetermined functional modes.

As per claim 10, this claim is rejected for the same reasons noted in claim 1.

As per claim 14, this claim is rejected for the same reasons noted in claim 2.

***Allowable Subject Matter***

Art Unit: 2816

7. Claims 3, 5-7, 11-13 and 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 3 is allowable because the prior art of record fails to disclose or suggest the inclusion of a transistor in the digital detector for performing the recited function.

Claims 5-7 are allowable because the prior art of record fails to disclose or suggest the inclusion of a register chain and a decoder as recited in claim 5.

Claims 11-13 are allowable because the prior art of record fails to disclose or suggest the inclusion of a plurality of inverter stages in the digital detector as recited in claim 11.

Claim 15 is allowable because the prior art of record fails to disclose or suggest the inclusion of the limitation the predetermined minimum frequency depends on the sizes of NMOS and PMOS transistors in an inverter stage of the digital detector.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is **571-272-1748**. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2816

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



9/14/04

Minh Nguyen  
Primary Examiner  
Art Unit 2816